

Appln No. 09/637,764
Amdt date March 3, 2011
Reply to Office action of September 3, 2010

REMARKS/ARGUMENTS

The above amendments and these remarks are in response to the Office action mailed on September 3, 2010. Claims 1-4, 9, 12-15, 17, 18, 20, 23, 24, 28, 31-33, 35-37, 39-41, 43-46, 53-55, 58 and 59 have been amended for clarity. Claim 29 has been canceled. Claims 62-67 have been added and are directed to subject matter disclosed in the application as originally filed. No new matter has been added. Claims 1-4, 7-28, 31-33, 35-37, 39-41 and 43-67 are now pending in this application. Reconsideration on the basis of the above amendments and remarks below is kindly requested.

Four Substitute Declarations for Reissue Patent Application from the inventors are being submitted herewith.

The undersigned attorney wishes to thank the Examiner for the telephonic interview on November 23, 2010, where the claims and the teachings of Overstreet et al., U.S. Patent No. 5,492,186, were discussed.

The Examiner rejected claims 40, 44, 58 and 60 under 35 U.S.C. §112, second paragraph, as being indefinite. The Examiner states that claim 44 was a duplicate of claim 29. I believe the Examiner meant to state that claim 40 was a duplicate of claim 29. Claim 40 has been amended to be dependent from claim 39. Similarly, claim 41 has been amended to be dependent from claim 36.

The remaining claims have been amended to clarify whether the weight percent is based on the weight of the hardfacing or the weight of the filler. I believe the Examiner has interpreted that all the weight percents were based on the weight percent of the hardfacing. The claims as now amended should address all the other 35 U.S.C. §112 second paragraph rejections.

The Examiner rejected claims 28, 29, 39, 40, 43, 44, 46, 47 and 50 under 35 U.S.C. §103(a) as being unpatentable over Overstreet et al. Claim 28 requires that the hardfacing

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comprises filler in the range of from 50 to 80 percent by weight of the hardfacing, and that the filler comprises in the range of from 19 to 100 percent by weight of the filler spherical cast tungsten carbide particles. Overstreet et al., on column 4, lines 19-26, states,

"The first hardfacing composition 55, contained a mixture of cemented tungsten carbide spheres of 16-30 mesh and particles of crushed cemented tungsten carbide of 20-30 mesh and crushed cast tungsten carbide of 60-80 mesh. The percent by weight of the above three tungsten carbide particles in the rod is respectively 66, 15 and 15%. The rod contained deoxidizer of silicomanganese of about four percent and niobium of less than one percent."

In other words, Overstreet et al. discloses 66% of cemented tungsten carbide spheres of 16 to 30 mesh, 15% particles of crushed cemented tungsten carbide of 20 to 30 mesh, and 15% crushed cast tungsten carbide of 60-80 mesh. Thus, Overstreet et al. discloses only 15%, by weight of the filler, cast tungsten carbide. Overstreet et al. does not disclose, teach or suggest that the filler comprises in a range of from 19% to 100%, by weight of the filler, spherical cast tungsten carbide. Thus, applicant submits that claim 28 is not rendered obvious by Overstreet et al.

Claim 39 requires that the filler has a second percent of spherical cast carbide particles where the second percent is at least 19%. As discussed, this amount of cast tungsten carbide is not disclosed, taught nor suggested by Overstreet et al. Thus, applicant submits that claim 39 is also not rendered obvious by Overstreet et al. Claims 40, 43, 44, 46, 47 and 50 are directly or indirectly dependent from claim 39. As such, applicant submits that these claims 40, 43, 44, 46, 47 and 50 are also not rendered obvious by Overstreet et al. for the same reasons that Overstreet et al. does not render claim 39 obvious, and for the additional limitations that claims 40, 43, 44, 46, 47 and 50 contain therein. For example, claim 43 requires that the first percent, which is the percent by weight of the filler of spherical cemented carbide particles, is 70. Overstreet et al. discloses 66% of cemented tungsten carbide spheres. Claims 44 and 46 require that the second percent is 20. The second percent is the percent by weight of filler of spherical cast tungsten carbide particles. Overstreet et al. discloses use of only 15% by weight of cast tungsten carbide.

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Thus, applicant submits that claims 44, 44 and 46 are not rendered obvious by Overstreet et al. for these additional reasons.

The Examiner stated that it would have been considered obvious to provide a hardfacing where the hardfacing includes only one of the spherical cast carbides and the crushed carbide in view of the Overstreet et al. teaching that a hardfacing can include only a spherical tungsten carbide or spherical cast carbide and crushed cast carbide. Applicant respectfully disagrees. The present invention provides for an a hardfacing which has improved wear resistance. The limitations in the claims provide for an increase in wear resistance. The hardfacing composition upon which the Examiner has relied upon in Overstreet et al. has a lower level of abrasion resistance and a higher level of fracture resistance (see column 3, line 67 to column 4, line 7). In other words, Overstreet et al. teaches away from the present invention in that the claimed invention provides for an increase in wear resistance, where Overstreet et al. in the cited section appears to teach a decrease in wear or abrasion resistance. As such, applicant submits that one skilled in the art wanting to improve the wear resistance of a hardfacing would not have followed the teachings of Overstreet et al.

The Examiner objected to claims 31, 45, 48, 49, 51 and 52, but stated that these claims would be allowable if rewritten in independent form, including all of the limitations of their base claims and any intervening claims. Claims 28, 45, 48, 49, 51 and 52 have been rewritten in independent, including all of the limitations of their base claims and any intervening claims, as claims 62-67. respectively. Thus, applicant submits that claims 62-67 are also now in condition for allowance.

The amendments to all the claims in this application have been made for clarity. In addition, the amendments to claims 28 and 39 find support on column 6, line 66 to column 7, line 13, and the Table on column 7 in the specification of U.S. Patent No. 5,791,422. Support for the amendments to claims 40 and 41 is found on column 6, line 66 to column 7, line 13, and on

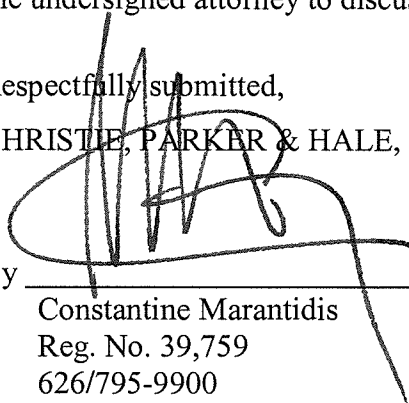
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the Table on column 7, in the specification of U.S. Patent No. 5,791,422. The other claims 62-67 find support in previously pending claims 28, 45, 48, 29, 51 and 52, respectively.

The objections and rejections to the claims pending in this application are believed to have been overcome and this application is now believed to be in condition for allowance. Should the Examiner have any remaining questions or concerns about the allowability of this application, the Examiner is kindly requested to call the undersigned attorney to discuss them.

Respectfully submitted,
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